BARBADOS

DEPARTMENT OF AGRICULTURE

REPORT

ON THE

SUGAR-CANE EXPERIMENTS

FOR THE SEASON BETWEEN

1923—1925.

BY

J. P. D'ALBUQUERQUE, M.A., F.I.C., F.C.S.
Island Professor of Chemistry and Agricultural Science.

ADVOCATE CO. LTD.,
Printers and Book-Binders to the Government of Barbados.

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DEPARTMENT OF AGRICULTURE,
BARBADOS.

30th October, 1925.

SIR,

I have the honour to forward for transmittal to the Colonial Secretary the report upon the Sugar Cane Experiments carried out by this Department during the season 1923-5.

2. While it is hoped that the report gives an account of everything in the work that will interest the planter, it has been greatly abbreviated by the omission of details that are only of interest for purposes of Departmental record and comparison.

3. The full details are on record in this Department and each plantation, where there is a select seedling experiment station, has received full details of the results there obtained.

4. The list of the staff with which the report begins, contains only the names of those officers that took part in the work of the season 1923-5.

I have the honour to be,
Sir,
Your most obedient servant,

J. P. d'ALBUQUERQUE,
Director of Science and Agriculture.

Major the Honourable
Sir Frederick J. Clarke, B.A., K.C.M.G., M.C.P.,
Coverley,
Christ Church.

BOARD OF AGRICULTURE,
DEPARTMENT OF AGRICULTURE,
BARBADOS.
3rd November, 1925.

SIR,

I have the honour, by direction of the Board of Agriculture, to transmit the Report of the Sugar Cane Experiments carried out by the Department of Agriculture during the season 1923-5.

I trust that it may be possible to print and publish this report at an early date.

I have the honour to be,
Sir,
Your most obedient servant,

F. J. CLARKE,
Chairman of the Board.

The Honourable
The Colonial Secretary,
Public Buildings.

REPORT

ON

THE SUGAR CANE EXPERIMENTS

Conducted in Barbados during the Season 1923-1925.

Director of Agriculture	J. R. Bovell, I.S.O.
Assistant Director of Agriculture	C. C. Skeete, B.A.
Assistant in Charge of Sugar-cane Experiments	C. O. Haynes
First Field Assistant	C. B. Foster
Second Field Assistant	J. N. W. Niccolls
Chief Clerk	H. O. Ramsey
Second Clerk	G. D. Ramsey
Third Clerk	B. A. Niccolls
Island Professor of Chemistry & Agricultural Science ...	J. P. d'Albuquerque, M.A. F.I.C., F.C.S., (London)
Assistant to the Professor of Chemistry ...	R. R. Hall, B.A.
Laboratory Assistant	L. A. Hall
First Analytical Assistant	H. A. Jones
Second Analytical Assistant	C. St. A. Alleyne
Clerk	C. G. Humphrey.

The Experiments are described in three parts, viz :—

Part I—Composition of Barbados rainfall.
Part II—Manurial and other experiments with sugar-canes.
Part III—Experiments with varieties of sugar-cane.

PART I.

RAINFALL.

The rainfall is recorded in Table 1. There was a good fall in December 1923 and the spring of young canes was generally good, but in January and February 1924 the fall was deficient and a drought occurred which lasted until June with the result that the crops were severely retarded. In July to November good rains fell followed by a remarkable recovery in the stunted canes. In December and in January 1925 the rainfall was small and followed by extremely dry weather to the end of the reaping season. This caused a premature ripening of canes and great scarcity of fodder.

Rainfall at Manurial and Variety Experiment Stations from December 1923 to March 1925.

TABLE I.

Stations.	Height above Sea Level.	December 1923.		January 1924.		February 1924.		March 1924.		April 1924.		May 1924.		June 1924.		July 1924.		August 1924.		September 1924.		October 1924.		November 1924.		December 1924.		January 1925.		February 1925.		March 1925.		Total	
		Days.	Inches.	Days.	Inches.	Days	Inches	Days	Inches	Days	Inches	Days	Inches	Days	Inches	Days	Inches	Days	Inches	Days	Inches	Days	Inches	Days	Inches	Days	Inches	Days	Inches	Days	Inches	Days	Inches	Days	Inches
Station No. 1 ...	210	13	10·82	18	1·59	14	1·31	3	·13	6	1·00	10	1·87	19	3·18	24	7·39	20	8·76	13	3·80	18	3·90	14	3·39	20	2·95	17	2·24	6	·29	9	·64	224	53·26
,, No. 2 ...	103	17	10·02	15	1·56	8	1·66	Nil		7	·98	13	3·27	17	5·32	22	9·93	19	10·41	12	5·37	13	5·31	12	3·26	15	2·73	13	2·03	5	·74	6	·88	194	63·47
,, No. 3 ...	160	16	10·79	15	1·53	14	1·80	3	·18	6	1·23	13	3·01	18	5·26	21	9·78	20	11·06	15	4·79	16	5·27	16	3·14	17	2·61	20	2·48	6	·45	7	·87	223	64·25
,, No. 4 ...	110	16	9·61	13	2·02	11	1·69	1	·14	7	1·00	13	3·33	19	5·38	22	10·22	20	10·19	14	5·62	16	6·41	12	3·33	19	3·32	15	2·47	6	·60	6	·88	210	66·21
,, No. 5 ...	271	13	6·73	10	1·31	6	1·69	1	·12	7	1·09	9	2·34	12	4·98	18	10·16	18	11·39	11	4·23	12	7·01	7	3·68	11	2·66	8	2·22	2	·96	4	·63	149	61·20
,, No. 6 ...	183	16	7·93	9	1·60	11	2·00	2	·08	5	·60	6	2·18	17	4·15	21	8·43	18	11·14	12	4·42	14	6·34	11	4·21	15	3·85	15	2·46	4	·94	5	1·06	181	61·69
,, No. 7 ...	254	9	5·08	13	2·98	6	1·90	1	·20	4	·39	7	2·30	9	5·03	19	8·49	17	12·20	10	4·11	9	5·38	9	3·02	16	3·03	10	2·30	4	·72	5	·94	148	58·09
,, No. 8	186	11	3·89	18	1·54	13	1·60	1	·08	4	·59	7	1·11	18	5·64	21	7·34	21	10·28	11	3·85	15	7·84	17	3·31	18	2·83	22	2·51	4	·44	8	·50	209	53·35
,, No. 9 ...	71	15	5·91	18	3·13	14	1·54	2	·06	4	1·32	12	1·17	13	4·43	21	8·51	19	7·73	14	6·35	18	6·01	14	5·24	16	3·18	12	1·31	9	1·19	11	·87	212	57·95
,, No. 10 ...	792	16	8·26	16	2·47	11	1·81	Nil		8	1·46	11	2·73	16	5·26	24	10·02	19	9·82	12	3·99	20	6·55	14	4·52	16	2·43	13	2·45	6	2·26	7	·93	209	64·96
,, No. 11 ...	553	16	9·28	20	1·78	14	2·75	1	·02	7	1·15	8	1·88	19	3·57	22	8·07	18	9·00	13	5·23	13	6·01	15	3·61	21	2·86	18	2·10	9	·94	9	1·01	223	59·26
,, No. 12 ...	720	23	11·11	21	2·76	14	2·41	1	·03	4	·93	8	2·19	17	5·13	21	10·96	19	12·30	16	7·38	14	7·61	13	4·36	19	3·22	18	2·73	8	2·03	7	·96	223	76·11
,, No 13 ...	731	18	9·16	16	3·37	14	2·40	1	·12	6	1·02	6	1·93	16	6·06	23	13·32	20	13·85	9	4·75	15	9·42	17	5·78	21	4·12	24	3·73	8	1·30	10	1·91	224	82·24

COMPOSITION OF BARBADOS RAINFALL.

The rainfall at Dodds was measured in the usual manner and fortnightly samples were analysed at the Government Laboratory. The amount, distribution and composition of the rainfall from December 1923 to May 1925 are given below. The total amount analysed was 37.19 inches and supplied approximately 82 pounds of chlorine and 5.923 pounds nitrogen per acre.

RAINFALL.

AMOUNT, DISTRIBUTION AND COMPOSITION OF THE RAINFALL AT DODDS BOTANIC STATION.

Table II.

	Fall.			Parts per million of		
	Days.	Inches	Ch'ine	Nitrogen as ammonia	Nitrogen as nitrate	Nitrogen Total.
December 1923 ...	13	10·82	2·5	·148	·346	·494
January 1924 ...	18	1·59	13·0	·039	·527	·566
February „ ...	14	1·31	11·0	·122	·290	·412
March „ ...	3	·13				
April „ ...	6	1·00	18·0	·112	·854	·966
May „ ...	10	1·87				
June „ ...	19	3·18	13·0	·252	1·442	1·694
July „ ...	24	7·39				
August „ ...	20	8·76	7·0	·025	·741	·766
September „ ...	13	3·80				
October „ ...	18	3·90	15·0	·033	·675	·708
November „ ...	14	3·39	10·0	·026	·600	·626
December „ ...	20	2·95	26·0	·107	·288	·395
January 1925 ...	17	2·24				
February „ ...	6	·29	40·0	·171	·900	1·071
March „ ...	9	·64				
April „ ...	3	·75				
May „ ...	4	·45				
	231	54·46	155·5	1·035	6·663	7·698

PART II.

MANURIAL EXPERIMENTS WITH SUGAR CANE.

The usual manurial plots were grown in Summervale field at Dodds plantation and similarly discordant results occurred to those obtained in several recent years in this field and in Bay Tree field. It appears that the deep digging up of these fields, every crop, in the effort to eradicate the root borer and brown hardback has so mingled the subsoil with the soil that these fields are no longer fitted for manurial experiments. The results therefore are not given in this report and it is proposed to abandon these fields for manurial experiments and institute fresh manurial experiments in other fields at Dodds and at other plantations.

PART III.

EXPERIMENTS WITH SEEDLING AND OTHER VARIETIES OF CANES.

FIRST YEAR SEEDLINGS.

Of the 5,000 first year seedlings growing in pots at Dodds three thousand of the most vigorous were selected and planted out in North Grape Tree field at Summervale plantation on June 6, 1924. Of these 437 were selected for reaping in 1925, account being taken of the number of canes per stool, size of canes in the stool and freedom from insect attacks and fungoid diseases.

The following short table gives the field results of those reaped, classified according to the number of pounds of cane per stool.

	Cane pounds per stool.	Number of stools
Between	42—34	2
,,	33—25	56
,,	24—16	288
,,	15—7	91

The canes reaped were sent to the Government Laboratory where they were milled and the juice analysed. The following are the milling results classified according to pounds of saccharose per stool of canes.

	Saccharose, pound per stool.	Number. of stools.
Between	3.33—3.00	2
,,	2.99—2.70	5
,,	2.69—2.40	15
,,	2.39—2.10	28
,,	2.09—1.80	63
,,	1.79—1.50	95
,,	1.49—1.20	126
,,	1.19—0.90	86
,,	0.89—0.60	13
,,	0.59—0.49	2

Of the 437 varieties reaped a certain number of high tonnage and high saccharose were selected for replanting. For a comparative study some other varieties were also selected which had given high tonnage and low saccharose, low tonnage and high saccharose and low tonnage and low saccharose respectively The following give the number and value of the varieties so selected.

(a) High tonnage and high saccharose—12 varieties (all obtainable).
(b) High tonnage and low saccharose—17 varieties.
(c) Low tonnage and high saccharose—13 varieties.
(d) Low tonnage and low saccharose—14 varieties.

	Canes, pound per stool.	Saccharose, pound per gln.
(*a*) *High tonnage and high saccharose*		
Highest ...	30 ...	2·28
Lowest ...	26 ...	2·02
Mean of 12 varieties ...	27.5 ...	2·12
(*b*) *High tonnage and low saccharose*		
Highest ...	42 ...	1·99
Lowest ...	21 ...	1·53
Mean of 17 varieties ...	28·0 ...	1·83
(*c*) *Low tonnage and high saccharose*		
Highest ...	19 ...	2·40
Lowest ...	11 ...	2·03
Mean of 13 varieties ...	15·7 ...	2·15
(*d*) *Low tonnage and low saccharose*		
Highest ...	16 ...	1·94
Lowest ...	11 ...	1·49
Mean of 14 varieties ...	13·5 ...	1·77

When the time arrived for the stools to be dug up, cut in half and replanted, thirty-five other varieties, which were very vigorous, were selected in addition to those mentioned above although some of them had failed to meet standard requirements *at the time of reaping.*

SELECT SEEDLING AND OTHER VARIETIES.

Tables III and IV give some of the results obtained at the select seedling stations with these varieties.

In Table III is given for black soils (plant canes) and red soils (plants canes, 1st and 2nd ratoons) the average results of the same varieties as in Table IV but contrasted with the rainfall during the four four-monthly periods of growth.

Table IV gives the average results of six select seedling varieties grown in black soils as plant canes and two select seedling varieties grown in red soils as plant canes and one select variety grown in red soils as first and second ratoons, as compared with those obtained with the three seedling varieties B. H. 10(12), Ba. 6032 and Ba. 11569, now generally planted throughout the island, and the White Transparent cane. In these tables the relative general characters of each variety can be made out including milling and richness and purity of juice. The yield in tons of cane and pounds of saccharose per acre are also given.

The Tables Nos. V and VI which follow, give the detailed results from which the above two average tables were compiled and will enable each planter, whether in red or black soils, by reference to the heights above sea level and rainfall, of each experimental station, as compared with the height and rainfall of his own plantation, to gain information as to what results to expect from the individual varieties, at his own plantation.

Of the results in all these tables, those with the new series seedling B. 417 stand out as of greatest practical interest. It has given the highest returns as plant canes in both tons of cane and pounds of saccharose of any of the varieties in both black and red soils It has not yet been reaped as ratoons.

Another variety of interest is the new series seedling B. 67 which has given slightly higher returns as ratoon canes than any other variety.

DESCRIPTION OF B. 417.

This seedling was grown at the Central Experiment station at Waterford under irrigation in 1916, from seed obtained from B.6835, which is also the seed bearing parent of B. H. 10 (12), B. 67 and other promising varieties.

This variety (B. 6835) so rich in the production of valuable offspring is, curiously enough, not itself one of the best in Barbados as regards its tonnage of cane or of sugar production. It, unfortunately, has been abandoned as an experimental cane in Barbados. But, fortunately, it has been retained in the experimental plots at Antigua, having been sent there by the Barbados Department of Agriculture in 1913 ; and a supply of plants will be obtained from that island in the near future. B.6835 was raised from seed (parent cane B.1379) at the Barbados Central Experiment Station at Waterford.

B.417 is a moderately quick growing cane with spreading, vigorous shoots, with about 12 canes to the clump of a fairly dark green colour, becoming greenish purple or entirely purple where exposed to bright sunlight. When well grown the cane reaches a length of 10 to 12 feet, with internodes of 4 to 7 inches, and a maximum diameter of 2 inches, one cane weighing about 12 pounds. The cane normally has a small bud (" eye "), and arrows readily. The cane is possessed of a rich and pure juice resembling its closely related cane B.H. 10.(12.).

MISCELLANEOUS EXPERIMENTS WITH THE SUGAR CANE (TABLE VII).

A. Experimental plots of 100 stools were planted in Ba. 6032, using plants from,
(1) plant canes (2) 1st. ratoon canes, both reaped as plant canes. The plots planted from 1st ratoons gave the higher results.

B. Experimental plots of 100 stools were planted in Ba. 6032 using plants from,
(1) plant canes (2) 1st ratoons (3) 2nd ratoons and were reaped as 1st ratoon plots.
The results starting from the highest were
1st ratoons from plant plants
1st „ „ 2nd ratoon plants.
1st „ „ 1st ratoon plants.

C. Experimental plots of 100 stools were planted in Ba. 6032 using plants from,
(1) thick long jointed canes (2) thin short jointed canes. The plots from the thin short jointed canes gave the higher results.

D. Experimental plots of 100 stools were planted in Ba. 6032 and B.H. 10 (12) at two different plantations, using plants from (1) canes attacked by moth borer, (2) canes not attacked by moth borer.
At one of the two plantations the plots planted with the not-borer-attacked canes gave higher results than those planted with borer-attacked canes, while at the other plantation the plots grown with borer-attacked canes gave higher results than the plots planted with not-borer attacked canes.

E. Experimental plots were planted in B.H. 10 (12) using plants from stools containing stalks varying in number from 4 to 20.

The results of the plots showed no connexion either in the number of the stalks per stool, in tons of canes or pounds of saccharose per acre, with the number of stalks per stool of the "parent" canes.

A COMPARISON OF THE MEAN RESULTS OF THE DIFFERENT VARIETIES OF CANES GROWN AT THE SELECT SEEDLING STATIONS IN ORDER OF YIELD OF SACCHAROSE PER ACRE FOR THE SEASON 1923–1925.

COMPARATIVE AVERAGES—TABLE III.

Black Soils—Plant Canes.

Name or No. of Cane.	No of Stations.	No. of Plots.	Rainfall Inches. December to March.	Rainfall Inches. April to July.	Rainfall Inches. August to November.	Rainfall Inches. December to March.	Rainfall Inches. Total.	No. of Canes per Stool.	Tons per acre. Canes.	Tons per acre. Tops.	Per cent. juice by mill.	Saccharose lb. per acre.	Per one Inch Rainfall per acre. Tons Canes.	Per one Inch Rainfall per acre. lb. Saccharose.
B. 417	4	6	10·24	15·73	24·01	6·47	56·48	13·3	33·71	4·31	57·54	9,048	0·597	160·20
Ba. 11569	9	14	11·58	16·97	24·64	6·75	59·94	15·5	32·10	3·85	56·80	8,357	0·536	139·12
B. 409	2	3	13·66	16·68	22·70	6·70	59 74	14·9	30·39	4·14	55·42	8,302	0·509	138·97
B. 117	2	3	13·66	16·68	22·70	6·70	59·74	11·1	29·35	4·81	58·75	8,248	0·500	138·06
B.H. 10 (12)	9	16	11·58	16 97	24·64	6·75	59.94	13·2	29·32	3·31	57 40	8,019	0·189	133·78
B. 67	7	10	11·48	16·83	24·58	6·84	59·73	13·7	30·71	4·22	60·23	7,744	0·515	129·65
Ba. 6032	9	14	11·58	16·97	24·64	6·75	59·94	12 9	31 09	3·65	57·50	7,242	0·519	120·82
B. 425	3	4	11·29	16·08	23·62	6·53	57·52	12·4	27·35	3·65	53·25	6,946	0·475	120·76
B. 39	4	5	13·06	17·02	23·75	6·59	60·42	13·6	26·76	3·54	59·38	6,891	0·443	114·05
W. Transparent ..	9	16	11·58	16·97	24·64	6·75	59·94	12·4	23·95	3·95	57·03	5,673	0·400	94·64
					Red Soils—Plant Canes.									
B. 417	2	4	14·43	19·34	28·27	8 50	70·54	12·1	41·21	7·02	58 50	10,515	0 584	149·06
Ba. 6032	4	7	14·43	18·92	28·55	8·75	70·65	10·9	39·71	4·22	56·25	9,201	0·542	130·28
B.H. 10 (12)	4	7	14·43	18·92	28·55	8·75	70·65	10 7	33·99	4·33	56·79	8,432	0·481	119·35
Ba. 11569	4	7	14·43	18·92	28·55	8·75	70·65	12·1	31·58	3·94	55·71	7,416	0·447	104·97
B. 67	4	7	14·43	18 92	28·55	8·75	70·65	11·4	27·21	4·20	58·21	6,600	0 385	93·42
W. Transparent ...	4	7	14 43	18·92	28·55	8·75	70·65	10·5	23 65	4·33	55·43	5,317	0·335	75·26

A Comparison of the mean results of the different Varieties of Canes grown at the Select Seedling Stations, in order of yield of Saccharose per acre for the Season 1923–1925.

Comparative Averages. Table III.—*Concluded.* *Red Soils—First Ratoons.*

Name or No. of cane.	No. of Stations.	No. of Plots.	Rainfall Inches.					No. of canes per Stool.	Tons per Acre.		Per cent. juice by Mill.	Saccharose lb. per acre.	Per one inch Rainfall per Acre.	
			December to March.	April to July.	August to November.	December to March.	Total.		Canes.	Tops.			Tons canes.	lb. Saccharose.
B.H. 10 (12)	3	5	14·63	20·34	30·11	9·36	74·44	11·6	27·62	6·04	53·80	6,533	0·371	87·76
B. 67	3	5	14·63	20·34	30·11	9·36	74·44	12·2	27·08	6·15	56·50	6,453	0·364	86·69
Ba. 6032	3	5	14·63	20·34	30·11	9·36	74·44	10·8	28·08	4·97	54·20	5,853	0·377	78·63
Ba. 11569	3	5	14·63	20·34	30·11	9·36	74·44	13·6	22·48	3·77	51·21	5,240	0·302	70·39
W. Transparent ...	3	5	14·63	20·34	30·11	9·36	74·44	10·4	20·31	5·21	52·56	4,476	0·273	60·13
						Second	*Ratoons.*							
B. 67	1	2	12·54	19·47	21·88	8·07	64·96	12·3	29·11	3·92	56·63	7,041	0·448	108·39
Ba. 11569	1	2	12·54	19·47	24·88	8·07	64·96	16·4	31·32	3·83	52·88	7,037	0·482	108·33
B.H. 10 (12)	1	2	12·54	19·47	24·88	8·07	64·96	13·5	26·95	3·35	57·38	6,595	0·415	101·53
Ba. 6032	1	2	12·54	19·47	24·88	8·07	64·96	10·8	24·11	3·16	51·88	5,029	0·371	77·42
W. Transparent ...	1	2	12·54	19·47	24·88	8·07	64·96	13·3	20·42	3·24	46·63	4,015	0·314	61·81

A Comparison of the Mean Results of the Different Varieties of Canes grown at the Select Seedling Stations 1923-1925 arranged in order of yield of Saccharose.

Black Soils—Plant Canes.

Comparative Averages. Table IV.

Name or No. of Cane.	No. of Stations.	No. of Plots.	Tons per acre.		Per cent. juice by mill.	Saccharose lb. per gallon.	Quotient of Purity.	Saccharose lb. per acre.
			Canes	Tops.				
B. 417 ...	4	6	33·71	4·31	57·54	2·28	92·3	9,018
Ba. 11569 ...	9	14	32·10	3·85	56·80	2·22	89·8	8,357
B. 409 ...	2	3	30 39	4·14	55·42	2·41	92·3	8,302
B 117 ...	2	3	29·85	4·84	58·75	2·30	91·1	8,248
B. H. (10 12) ...	9	16	29·32	3·31	57 40	2·33	89·4	8,019
B. 67 ...	7	10	30·74	4·22	60·23	2·03	85·9	7,744
Ba. 6032	9	14	31·09	3·65	57·50	1·94	87·2	7,242
B. 425	3	4	27·35	3·65	53·25	2·33	92·1	6,946
B. 39	4	5	26·76	3·51	59·38	2·09	87·8	6,891
W. Transparent ...	9	16	23·95	3 95	57·05	2 01	87·9	5,673
			Red Soils – Plant Canes.					
B. 417	2	4	41·21	7·02	58·50	2·13	91·7	10,515
Ba. 6032	4	7	39 71	4·22	56·25	1·71	84·7	9,204
B.H. 10(12) ...	4	7	33·99	4·33	56·79	2·14	90·1	8,432
Ba. 11569 ...	4	7	30·58	3 94	55·71	2·14	90·4	7,416
B. 67	4	7	27·21	4·20	58·21	2·05	88·6	6,600
W. Transparent ...	4	7	23·65	4·35	55·43	1·99	90·2	5,317
			First Ratoons.					
B. H. 10 (12) ...	3	5	27 62	6·04	53·80	2·14	91·4	6,533
B. 67	3	5	27·03	6·15	56·50	2·04	89·2	6,453
Ba. 6032	3	5	28·08	4·97	54·20	1·85	88·5	5,853
Ba. 11569 ...	3	5	22·48	3·77	51·21	2·19	91·5	5,240
W. Transparent ...	3	5	20 34	5·21	52·56	2·04	90·7	4,476
			2nd Ratoons.					
B. 67	1	2	29·11	3·32	56·63	2·08	89·4	7,041
Ba. 11569 ...	1	2	31·32	3·83	52 88	2·07	89·0	7,037
B.H. 10 (12) ...	1	2	26·95	3·35	57·38	2·07	89·4	6,595
Ba. 6032 ...	1	2	24·11	3·16	51·88	1 94	88·4	5,029
W. Transparent ...	1	2	20·42	3·24	46·63	2·04	90·6	4,015

A COMPARISON OF THE DIFFERENT VARIETIES OF CANES GROWN AT THE SELECT SEEDLING STATIONS, IN ORDER OF YIELD OF SACCHAROSE PER ACRE FOR THE SEASON 1923—1925.

TABLE V. *Black Soils—Plant Canes.*

Name or No. of Cane.	No. of Station.	Height above Sea level.	Rainfall Inches.					No. of Canes per stool.	Tons per Acre.		Per cent. juice by mill.	Saccharose lb. per acre.	Per one inch Rainfall per Acre.	
			December to March	April to July.	August to November.	December to March.	Total.		Canes.	Tops.			Tons Canes.	lb. Saccharose.
B. 417	7	254	10·16	16·23	24·71	6·99	58·09	18·3	35·66	3·65	57·13	9,707	0·614	167·10
	8	186	7·11	14·68	25·28	6·28	53·35	12·7	36·15	4·98	54·88	9,419	0·678	176·55
	5	271	9·85	18·57	26·31	6·47	61·20	11·6	31·71	...	55·25	8,262	0·518	135·00
	1	210	13·85	13·44	19·85	6·12	53·26	10·5	26·91	...	66·00	7,772	0·505	145·93
Mean of 6 Plots ..			10·24	15·73	24·04	6·47	56·18	13·3	33·71	4·31	57·54	9,048	0·597	160·20
Ba. 11569	4	110	13·46	19·93	25·55	7·27	66·21	13·9	38·42	4·79	58·75	10,727	0·580	162·61
	1	210	13·85	13·44	19·85	6·12	53·26	11·1	32·45	...	61·88	8,901	0·609	167·12
	5	271	9·85	18·57	26·31	6·47	61·20	16·7	33·00	..	58·75	8,801	0·539	143·81
	9	71	10·64	15·43	25·33	6·55	57·95	15·4	32·09	4·07	56·25	8,181	0·554	141·17
	3	160	14·30	19·28	24·26	6·41	64·25	20·2	29·98	...	57·50	7,653	0·467	119·11
	2	103	13·24	19·50	24·35	6·38	63·47	14·5	31·57	..	54·25	7,610	0·497	119·90
	6	183	11·61	15·66	26·11	8·31	61·69	13·1	27·55	...	57·25	7,562	0·447	122·58
	7	254	10·16	16·23	24·71	6·99	58·09	17·2	30·30	3·26	53·75	7,444	0·522	128·15
	8	186	7·11	14·68	25·28	6·28	53·35	17·7	30·36	3·27	53·13	7,433	0·569	139·33
Mean of 14 Plots ..			11·58	16·97	24·64	6·75	59·94	15·5	32·10	3·85	56·80	8,357	0·536	139·42
B. 409	1	210	13·85	13·14	19·85	6·12	53·26	16·2	33·83	...	56·75	9,471	0·635	177·83
	4	110	13·46	19·93	25·55	7·27	66·21	13·5	28·68	4·14	54·75	7,718	0·436	116·57
Mean of 3 Plots ...			13·66	16·68	22·70	6·70	59·74	14·9	30·39	4·14	55·42	8,302	0·509	138·97
B. 117	4	110	13·46	19·93	25·55	7·27	66·21	11·6	31·41	4·84	56·50	8,807	0·474	133·02
	1	210	13·85	13·44	19·85	6·12	53·26	10·5	26·73	...	63·25	7,130	0·502	133·87
Mean of 3 Plots ..			13·66	16·68	22·70	6·70	59·74	11·1	29·85	4·84	58·75	8,248	0·500	138·06

A COMPARISON OF THE DIFFERENT VARIETIES OF CANES GROWN AT THE SELECT SEEDLING STATIONS, IN ORDER OF YIELD OF SACCHAROSE PER ACRE FOR THE SEASON 1923—1925.

TABLE V—*Continued*

Black Soils—Plant Canes.

Name or No. of cane.	No. of Station.	Height above Sea Level.	Rainfall Inches.					No of canes per stool.	Tons per Acre.		Per cent juice by mill.	Saccharose lb. per acre.	Per one inch Rainfall per Acre.	
			December to March.	April to July.	August to November.	December to March.	Total.		Canes.	Tops.			Tons canes.	lb. saccharose.
B. H. 10 (12)	4	110	13·46	19·93	25·55	7·27	66·21	14·2	36·16	4·39	57·75	10,368	0·546	156·59
	8	186	7·11	14·68	25·28	6·28	53·35	12·9	33·72	3·00	55·88	9,028	0·632	169·22
	5	271	9·85	18·57	26·31	6·47	61·20	15·1	31·45	...	61·90	8,856	0·514	144·71
	2	103	13·24	19·50	24·35	6·38	63 47	13·8	30·68	...	55·25	8,149	0·483	128·39
	1	210	13·85	13·44	19·85	6·12	53·26	12·6	29·03	...	60·31	8,098	0·545	152·05
	6	183	11·61	15·66	26·11	8·31	61·69	14·0	26·65	...	57·00	7,414	0·432	120·18
	9	71	10·64	15·43	25·33	6·55	57·95	11·6	25·61	2·84	56·63	6,901	0·442	119·09
	3	160	14·30	19·28	24·26	6·41	64·25	11·0	25·64	...	56·75	6,851	0·399	106·63
	7	254	10·16	16·23	24·71	6 99	58·09	14·0	23·80	3·02	53·38	6,026	0·410	103·71
Mean of 16 Plots ...	..	...	11·58	16·97	24·64	6·75	59·94	13 2	29·32	3·31	57·40	8,019	0·489	133·78
B. 67	4	110	13·46	19 93	25·55	7·27	66·21	14·2	35·46	4·80	56·93	9,106	0·536	137·53
	8	186	7·11	14·68	25·28	6 28	53·35	13·8	36·00	3·91	59·63	8,904	0·657	166·90
	5	271	9·85	18·57	26·31	6·47	61·20	15·7	31·62	...	60·50	8,224	0·517	134·38
	6	183	11·61	15·66	26·11	8·31	61·69	13·4	26·91	...	59·80	7,042	0·436	114·15
	1	210	13·85	13·44	19·85	6·12	53·26	11·5	24·86	...	63·50	6,799	0·467	127·66
	7	254	10·16	16·23	24·71	6 99	58·09	14·7	28·08	3·95	58·88	6,728	0·483	115·82
	3	160	14·30	19·28	24·26	6·41	64·25	12·9	24·95	.	62·25	5,899	0·388	91·81
Mean of 10 Plots ...	..	...	11·43	16·83	24·58	6·84	59·73	13·7	30·74	4·22	60·23	7,744	0·515	129·65

A COMPARISON OF THE DIFFERENT VARIETIES OF CANES GROWN AT THE SELECT SEEDLING STATIONS, IN ORDER OF YIELD OF SACCHAROSE PER ACRE FOR THE SEASON 1923—1925.

TABLE V—*Continued*

Black Soils—Plant Canes.

Name or No. of cane.	No. of Station.	Height above Sea Level.	Rainfall Inches.					No of canes per stool.	Tons per Acre.		Per cent juice by mill.	Saccharose lb. per acre.	Per one inch Rainfall per Acre.	
			December to March.	April to July.	August to November.	December to March.	Total.		Canes.	Tops.			Tons canes.	lb. saccharose.
Ba. 6032	9	71	10·64	15·43	25·33	6·55	57·95	15·0	37·38	3·98	57·50	9,087	0·645	156·81
	8	186	7·11	14·68	25·28	6·28	53·35	13·9	37·56	3·92	57·50	8,771	0·704	164·40
	4	110	13·46	19·93	25·55	7·27	66·21	12·9	35·13	3·97	59·00	8,586	0·531	129·68
	2	103	13·24	19·50	24·35	6·38	63·47	12·5	33·81	...	56·50	7,609	0·533	119·88
	5	271	9·85	18·57	26·31	6·47	61·20	13·3	31·96	...	54·75	6,962	0·522	113·76
	1	210	13·85	13·41	19·85	6·12	53·26	9·5	26·56	...	62·50	6,500	0·499	122·04
	6	183	11·61	15·66	26·11	8·31	61·69	12·9	24·22	...	56·50	5,968	0·393	96·74
	7	254	10·16	16·23	24·71	6·29	58·09	15·0	24·13	2·72	54·90	5,173	0·415	89·05
	3	160	14·30	19·28	24·26	6·41	64·25	11·1	23·82	...	51·50	4,619	0·371	71·89
Mean of 14 Plots. ...			11·58	16·97	24·64	6·75	59·94	12·9	31·09	3·65	57·50	7,242	0·519	120·82

A Comparison of the different varieties of Canes grown at the Select Seedling Stations, in order of yield of Saccharose per acre for the Season 1923-1925.

Table V.—*Continued.*

Black Soils—Plant Canes.

Name or No. of Cane.	No. of Station.	Height above Sea level.	Rainfall Inches.					No. of canes per stool.	Tons per Acre.		Per cent. juice by mill.	Saccharose lb. per acre.	Per one inch Rainfall per Acre.	
			December to March.	April to July.	August to November.	December to March.	Total.		Canes.	Tops.			Tons canes.	lb. saccharose.
B. 425	5	271	9·85	18·57	26·31	6·47	61·20	12·6	27·28	...	53·25	7,190	0·446	117·48
	7	254	10·16	16·23	24·71	6·99	58·09	15·6	28·00	3·65	51·88	6,870	0·482	118·26
	1	210	13·85	13·44	19·85	6·12	53·26	9·0	26·13	...	56·00	6,854	0·491	128·69
Mean of 4 Plots ..	...	...	11·29	16·08	23·62	6·53	57·52	12·4	27·35	3·65	53·25	6,946	0·475	120·76
B. 39	4	110	13·46	19·93	25·55	7·27	66·21	12·6	31·01	5·18	60·50	8,233	0·468	124·35
	1	210	13·85	13·44	19·85	6·12	53·26	10·8	28·34	...	64·50	7,419	0·532	139·30
	3	160	14·30	19·28	24·26	6·41	64·25	15·0	25·17	...	55·25	5,875	0·392	91·44
	9	71	10·64	15·43	25·33	6·55	57·95	15·8	18·30	1·59	57·00	4,695	0·316	81·02
Mean of 5 Plots ...	...	...	13·06	17·02	23·75	6·59	60·42	13·6	26·76	3·54	59·38	6,891	0·443	114·05
W. Transparent ...	8	186	7·11	14·68	25·28	6·28	53·35	14·1	33·18	5·93	55·63	7,649	0·622	143·37
	2	103	13·24	19·50	24·35	6·38	63·47	12·8	31·46	...	56·75	7,591	0·496	119·60
	4	110	13·46	19·93	25·55	7·27	66·21	13·0	29·25	4·15	56·88	7,171	0·422	108·31
	5	271	9·85	18·57	26·31	6·47	61·20	12·0	23·50	...	54·00	5,470	0·384	89·38
	7	254	10·16	16·23	24·71	6·99	58·09	15·7	22·63	3·66	55·50	5,164	0·390	88·90
	1	210	13·85	13·44	19·85	6·12	53·26	10·2	22·70	...	62·00	5,002	0·426	103·62
	3	160	14·30	19·28	24·26	6·41	64·25	12·9	19·46	...	53·25	4,236	0·303	65·83
	9	71	10·64	15·43	25·33	6·55	57·95	12·0	17·83	1·97	55·38	4,233	0·308	73·05
	6	183	11·61	15·66	26·11	8·31	61·69	9·1	12·21	...	54·50	2,964	0·198	48·05
Mean of 16 plots ...	...	...	11·58	16·97	24·64	6·75	59·94	12·4	23·95	3·95	57·03	5,673	0·400	94·64

A COMPARISON OF THE DIFFERENT VARIETIES OF CANES GROWN AT THE SELECT SEEDLING STATIONS, IN ORDER OF YIELD OF SACCHAROSE PER ACRE FOR THE SEASON 1923—1925.

TABLE V. *Continued.* *Red Soils—Plant Canes, 1st Ratoons, 2nd Ratoons.*

Name or No. of cane.	No. of Station.	Height above Sea level.	Rainfall Inches.					No. of canes per stool.	Tons per Acre.		Per cent. juice by Mill.	Saccharose lb. per acre.	Per one inch Rainfall per Acre.	
			December to March.	April to July.	August to November.	December to March.	Total.		Canes.	Tops.			Tons canes.	lb. saccharose.
B. 417														
Plant Canes	10	792	12·54	19·47	24·88	8·07	64·96	13·4	53·30	7·16	59·13	13,268	0·821	204·25
,, ...	12	720	16·31	19·21	31·65	8·94	76·11	10·7	29·12	6·89	57·88	7,763	0·383	102·00
Mean of 4 plots ...	...	...	14·43	19·34	28·27	8·50	70·54	12·1	41·21	7·02	58·50	10,515	0·584	149·06
Ba. 6032														
Plant Canes	10	792	12·54	19·47	24·88	8·07	64·96	14·2	52·20	5·39	58·75	11,539	0·804	177·63
,, ...	13	731	15·05	22 33	33·80	11·06	82·24	11.7	45·24	...	57·50	9,489	0·550	115·38
,, ...	11	553	13·83	14·67	23·85	6·91	59·26	8·9	31·11	2·59	55·50	6,522	0·525	110·06
,, ...	12	720	16·31	19·21	31·65	8·94	76·11	8 6	25·12	4·68	53·88	5,943	0·330	78·08
Mean of 7 plots ...	...	...	14·43	18 92	28·55	8·75	70·65	10·9	39·71	4·22	56·25	9,204	0·562	130·28
First Ratoons	10	792	12·54	19·47	24·88	8·07	64·96	11·8	32·70	4·39	55·25	6,853	0·503	105·50
,, ...	13	731	15 05	22·33	33·80	11·06	82·24	10·3	27·09	...	53·50	5,386	0·329	65·49
,, ...	12	720	16·31	19·21	31·65	8·94	76·11	10·2	23·97	5·55	53·50	5,087	0·315	66·84
Mean of 5 plots ...	...	...	14·63	20 34	30·11	9·36	74·44	10·8	28·08	4·97	54·20	5,853	0·377	78 63
Second Ratoons ...	10	792	12·54	19·47	24·88	8·07	64·96	10·8	24·11	3·16	51·88	5,029	0·371	77·42
B.H. 10 (12).														
Plant Canes	10	792	12·54	19·47	24·88	8·07	64·96	12·5	43·30	5·25	58·13	10,315	0·667	158·79
,, ...	11	553	13·83	14 67	23·85	6·91	59·26	9·9	33·90	2·65	57·00	8,415	0·572	142·00
,, ...	13	731	15·05	22·33	33·80	11·06	82 24	9·3	31·24	...	54·75	7,378	0·380	89·71
,, ...	12	720	16·31	19·21	31·65	8 94	76·11	11·1	26·17	5·10	56 25	7,095	0·344	93·22
Mean of 7 plots ...	...	...	14 43	18·92	28·55	8·75	70·65	10·7	33·99	4·33	56·79	8,432	0·481	119·35

A COMPARISON OF THE DIFFERENT VARIETIES OF CANES GROWN AT THE SELECT SEEDLING STATIONS IN ORDER OF YIELD OF SACCHAROSE PER ACRE FOR THE SEASON 1923—1925.

TABLE V.—*Continued.* *Red Soils—Plant Canes, 1st Ratoons 2nd Ratoons.*

Name or No. of Cane.	No. of Stations.	No. of Plots.	Rainfall Inches. December to March	April to July.	August to November.	December to March.	Total.	No. of Canes per Stool.	Tons per Acre. Canes.	Tops.	Per cent. juice by mill.	Saccharose lb. per acre.	Per one inch Rainfall per Acre. Tons Canes.	lb. Saccharose.
B. H. 10 (12														
First Ratoons ...	10	792	12·54	19·47	24·88	8·07	64·96	14·6	34·72	6·48	53·25	8,009	0·534	123·29
	12	720	16·31	19·21	31·65	8·94	76·11	12·0	23·84	5·60	53·13	5,969	0·313	78·43
	13	731	15·05	22·33	33·80	11·06	82·24	8·3	21·00	...	56·25	4,712	0·255	57·30
Mean of 5 Plots ...			14·63	20·34	30·11	9·36	74·44	11·6	27·62	6·04	53·80	6,533	0·371	87·76
Second Ratoons ...	10	792	12·54	19·47	24·88	8·07	64·96	13·5	26·95	3·35	57·38	6,595	0·415	101·53
Ba. 11569														
Plant Canes	11	553	13·83	14·67	23·85	6·91	59·26	13·0	34·55	2·87	56·75	8,580	0·583	144·79
	13	731	15·05	22·33	33·80	11·06	82·24	12·5	34·61	...	54·50	7,583	0·421	92·21
	10	792	12·54	19·47	24·88	8·07	64·96	14·8	30·36	4·26	55·63	7,283	0·467	112·12
	12	720	16·31	19·21	31·65	8·94	76·11	8·1	24·83	5·25	54·25	6,302	0·326	82·80
Mean of 7 Plots ...			14·43	18·92	28·55	8·75	70·65	12·1	30·58	3·94	55·71	7,416	0·447	104·97
First Ratoons	12	720	16·31	19·21	31·65	8·94	76·11	13·0	27·37	5·29	51·75	6,592	0·360	86·61
	13	731	15·05	22·33	33·80	11·06	82·24	17·4	26·44	...	52·75	6,165	0·321	74·96
	10	792	12·54	19·47	24·88	8·07	64·96	10·4	(a)15·61	2·24	49·90	3,425	0·240	52·72
Means of 5 Plots ...			14·63	20·34	30·11	9·36	74·44	13·6	22·48	3·77	51·21	5,240	0·302	70·39
Second Ratoons ...	10	792	12·54	19·47	24·88	8·07	64·96	16·4	31·32	3·83	52·88	7,037	0·482	108·33

(a) Very badly eaten by rats

A COMPARISON OF THE DIFFERENT VARIETIES OF CANES GROWN AT THE SELECT SEEDLING STATIONS IN ORDER OF YIELD OF SACCHAROSE PER ACRE FOR THE SEASON 1923—1925.

TABLE V.—*Continued* *Red Soils—Plant Canes, 1st Ratoons, 2nd Ratoons.*

Name or No. of cane.	No. of Station.	Height above Sea Level.	Rainfall Inches. December to March.	April to July.	August to November.	December to March.	Total.	No. of canes per stool.	Tons per Acre. Canes.	Tops.	Per cent juice by Mill.	Saccharose lb per acre.	Per one inch Rainfall per Acre. Tons canes.	lb. saccharose.
B. 67 Plant Canes	10	792	12·54	19·47	24·88	8·07	64·96	13·3	34·01	4·71	59·63	7,693	0·524	118·43
	13	731	15·05	22·33	33·80	11·06	82·24	10·8	29·68	...	56·25	7,164	0·361	87·11
	11	553	13·83	14·67	23·85	6·91	59·26	10·3	27·61	3·18	57·83	6,805	0·466	114·83
	12	720	16·31	19·21	31·65	8·94	76·11	11·2	18·76	4·72	58·13	5,023	0·246	66·00
Mean of 7 Plots ...			14·43	18·92	28·55	8·75	70·65	11·4	27·21	4·20	58·21	6,600	0·385	93·42
First Ratoons ...	12	720	16·31	19·21	31·65	8·94	76·11	13·3	28·30	5·77	56·38	6,955	0·372	91·38
	13	731	15·05	22·33	33·80	11·06	82·24	12·2	26·18	...	56·25	6,246	0·381	75·95
	10	792	12·54	19·47	24·88	8·07	64·96	11·1	26·31	6·53	56·75	6,054	0·405	93·20
Mean of 5 Plots ...	...	...	14·63	20·34	30·11	9·36	74·44	12·2	27·08	6·15	56·50	6,453	0·364	86·69
Second Ratoons ...	10	792	12·54	19·47	24·88	8·07	64·96	12·3	29·11	3·92	56·63	7,041	0·448	108·39
W. Transparent Plant Canes	10	792	12·54	19·47	24·88	8·07	64·96	13·5	32·35	4·80	59·50	7,073	0·498	108·88
	13	731	15·05	22·33	33·80	11·06	82·24	10·6	28·00	—	53·25	5,968	0·340	72·57
	11	553	13·83	14·67	23·85	6·91	59·26	9·0	22·96	3·06	55·00	5,383	0·387	90·84
	12	720	16·31	19·21	31·65	8·94	76·11	8·9	13·48	5·15	52·88	3,170	0·177	41·65
Mean of 7 Plots ...	...	—	14·43	18·92	28·55	8·75	70·65	10·5	23·65	4·33	55·43	5,317	0·335	75·26

A COMPARISON OF THE DIFFERENT VARIETIES OF CANES GROWN AT THE SELECT SEEDLING STATIONS, IN ORDER OF YIELD OF SACCHAROSE PER ACRE FOR THE SEASON 1923-1925.

TABLE V.—*Concluded.*

Red Soils—1st Ratoons, 2nd Ratoons.

Name or No. of Cane.	No. of Station.	Height above Sea level.	Rainfall Inches.					No. of canes per stool.	Tons per Acre.		Per cent. juice by mill.	Saccharose lb. per acre.	Per one inch Rainfall per Acre.	
			December to March.	April to July.	August to November.	December to March.	Total.		Canes.	Tops.			Tons canes.	lb. saccharose.
W. Transparent First Ratoons	12	720	16·31	19·21	31·65	8·94	76·11	10·4	22·35	6·27	51·75	5,085	0·294	66·81
	13	731	15·05	22·33	33·80	11·06	82·24	10·3	23·18	...	53·00	4,951	0·282	60·20
	10	792	12·54	19 47	24 88	8·07	64·96	10·4	16·92	4·15	51·93	3,630	0·260	55·88
Mean of 5 plots ...	...	...	14·63	20·34	30·11	9·36	74·44	10·4	20·34	5·21	52·56	4,476	0·273	60·13
Second Ratoons ...	10	792	12·54	19·47	24·83	8·07	64·96	13·3	20·42	3·24	46·63	4,015	0·314	61·81

A Comparison of the Mean Results of the Different Varieties of Canes grown at the Select Seedling Stations 1923-1925 arranged in order of yield of Saccharose.

Black Soils—Plant Canes.

Table VI.

Name or No. of Cane.	No. of Stations.	No. of Plots.	Tons per acre.		Per cent. juice by mill.	Saccharose lb. per gallon.	Quotient of Purity.	Saccharose lb. per acre.
			Canes.	Tops.				
B. 417 ...	4	6						
Highest ...	...	...	37·67	5·57	66·00	2·37	94·4	10,516
Lowest ...	...	...	26·91	3·40	53·50	2·12	90·4	7,772
Mean	...	...	33·71	4·31	57·54	2·28	92·3	9,048
Ba.11569 ..	9	14						
Highest	...	...	42·78	5·32	62·00	2·35	91·9	12,072
Lowest	...	...	24·54	2·84	52·25	2·13	88·0	5,711
Mean ...	...	...	32·10	3·85	56·80	2·22	89·8	8,357
B. 409 ...	2	3						
Highest ...	...	...	33·83	4·47	56·75	2·43	94·1	9,471
Lowest ...	...	...	28·24	3·80	53·00	2·38	90·7	7,288
Mean ...	...	...	30·39	4·14	55·42	2·41	92·3	8,302
B. 117 ..	2	3						
Highest ...	...	...	31·76	5·34	63·25	2·46	92·5	9,168
Lowest ...	...	...	26·73	4·34	55·50	2·04	89·5	7,130
Mean ...	...	...	29·85	4·84	58·75	2·30	91·1	8,248
B.H. 10 (12) ...	9	16						
Highest ...	...	...	37·88	4·45	62·75	2·48	91·8	10,483
Lowest ..	...	...	33·08	2·68	52·75	2·09	85·7	5,927
Mean ...	...	...	29·32	3·31	57·10	2·33	89·4	8,019
B. 67 ...	7	10						
Highest ...	...	...	36·64	5·12	63·50	2·13	89·3	9,679
Lowest ...	...	...	24·86	3·64	57·25	1·84	84·6	5,899
Mean ...	...	...	30·74	4·22	60·23	2·03	85·9	7,744
Ba. 6032 ..	9	14						
Highest ...	...	...	40·65	4·63	63·00	2·12	88·8	10,290
Lowest ..	...	...	22·45	2·48	53·80	1·71	81·8	4,619
Mean ...	...	...	31·09	3·65	57·50	1·94	87·2	7,212
B. 425 ...	3	4						
Highest ...	...	...	30·21	3·94	56·00	2·42	93·8	7,369
Lowest ..	...	...	26·13	3·35	51·50	2·28	90·2	6,370
Mean	...	...	27·35	3·65	53·25	2·33	92·1	6,946
B. 39 ...	4	5						
Highest ...	...	...	35·74	5·49	61·75	2·19	89·8	9,707
Lowest ...	...	...	18·30	1·59	57·00	1·96	86·5	4,645
Mean ...	...	...	26·76	4·29	59·55	2·09	87·8	6,891
W. Transparent ...	9	16						
Highest ...	...	...	34·11	6·49	65·00	2·17	91·6	7,698
Lowest ...	...	...	12·21	1·37	52·75	1·79	83·6	2,964
Mean ..	...	...	23·95	3·95	57·03	2·01	87·9	5,673

A COMPARISON OF THE MEAN RESULTS OF THE DIFFERENT VARIETIES OF CANES GROWN AT THE SELECT SEEDLING STATIONS 1923-1925 ARRANGED IN ORDER OF YIELD OF SACCHAROSE.

Red Soils.—Plant Canes.

TABLE VI.—*Continued.*

Name or No. of Cane.	No. of Stations.	No. of Plots.	Tons per acre.		Per cent. juice by mill.	Saccharose lb. per gallon.	Quotient of Purity.	Saccharose lb. per acre.
			Canes.	Tops.				
B. 417 ...	2	4						
Highest ..			55·25	9·63	60·50	2·27	93·8	13,854
Lowest ...			26·85	4·69	56·75	2·00	90 0	6,877
Mean ...			41·21	7·02	58·50	2·13	91·7	10,515
Ba. 6032 ...	4	7						
Highest ...			64·86	6·35	61·25	1 99	92·3	17,775
Lowest ...			25·15	2·46	51·50	1·48	80·4	4,631
Mean ...			39·71	4·22	56·25	1·71	84·7	9,204
B.H. 10 (12) ...	4	7						
Highest ..			45·76	3·22	59·00	2·36	94·0	10,321
Lowest ...			25·79	2·46	54·75	1·84	86·0	6,802
Mean ...			33·99	4·33	56 79	2·14	90·1	8,432
Ba. 11569 ...	4	7						
Highest ...			40·83	5·81	57·50	2·29	93·8	10,155
Lowest ...			23·36	2·72	51·50	1·94	87·8	6,098
Mean ...			30·58	3·94	55·71	2·14	90·4	7,416
B. 67 ...	4	7						
Highest ...			33 93	5·00	60·00	2·28	92·3	7,706
Lowest ...			17·14	3·11	55·25	1·82	85·5	4,695
Mean ...			27·21	4·20	58·21	2·05	88·6	6,600
W. Trans. ...	4	7						
Highest ...			35·15	5·21	60·50	2·16	93·1	7,351
Lowest ...			13·35	2·23	53·00	1·65	86·8	3,156
Mean ...			23·65	4·33	55·43	1·99	90·2	5,317
			1st Ratoons.					
B.H. 10 (12) ...	3	5						
Highest ...			37·93	7·13	56·25	2·31	93·5	8,603
Lowest ...			20·84	4·43	51·00	1·92	89·7	4,712
Mean ...			27·62	6·04	53·80	2·14	91·4	6,533
B. 67. ...	3	5						
Highest ...			33·96	7·78	59·00	2·16	91·9	8,396
Lowest ...			22·64	3·84	54·50	1·94	86·4	5,394
Mean ...			27·08	6·15	56·50	2·04	89·2	6,453
Ba. 6032 ..	3	5						
Highest ...			37·02	6·10	56·50	1·96	91·6	7,600
Lowest ..			21·81	3·75	52·50	1·78	85 5	4,663
Mean ..			28·08	4·97	54·20	1·85	88·5	5,853
Ba. 11569 ...	3	5						
Highest ...			29·45	6·17	52·75	2·27	93·4	7,085
Lowest ...			(a)13·87	2 07	49·50	2·06	88·8	2,966
Mean ...			22·48	3·77	51·21	2·19	91 5	5,240
W. Transparent...	3	5						
Highest ...			23·77	7·36	55·00	2·14	93·9	5,470
Lowest ...			16·33	3·89	51·10	1·94	86·7	3,608
Mean ...			20·34	5·21	52·56	2·04	90·7	4,476

(a) Very badly eaten by rats.

A COMPARISON OF THE MEAN RESULTS OF THE DIFFERENT VARIETIES OF CANES GROWN AT THE SELECT SEEDLING STATIONS 1923-1925 ARRANGED IN ORDER OF YIELD OF SACCHAROSE.

Red Soils—2nd Ratoons.

TABLE VI.—*Concluded.*

Name or No. of Cane.	No. of Stations.	No. of Plots.	Tons per acre.		Per cent juice by Mill.	Saccharose lb. per gallon.	Quotient of purity.	Saccharose lb. per acre.
			Canes.	Tops.				
B. 67. ...	1	2						
Highest ...			32·30	4·02	60·25	2·18	90·1	7,678
Lowest ...			25·92	3·81	53·00	1·98	88·8	6,403
Mean ...			29·11	3·92	56·63	2·08	89·5	7,041
Ba. 11569 ...	1	2						
Highest ...			34·38	3·94	55·50	2·15	92·7	7,665
Lowest ...			28·26	3·71	50·25	1·98	85·3	6,409
Mean ...			31·32	3·83	52·88	2·07	89·0	7,037
B.H. 10 (12) ...	1	2						
Highest ...			27·79	4·10	58·25	2·07	90·0	6,882
Lowest ...			26·11	2·59	56·50	2·06	88·8	6,307
Mean ...			26·95	3.25	57·38	2·07	89·4	6,595
Ba. 6032 ...	1	2						
Highest ...			24·37	3·29	53·75	1·97	89·1	5,189
Lowest ...			23·85	3·03	50·00	1·91	87·6	4,868
Mean ...			24·11	3·16	51·88	1·94	88·4	5,029
W. Trans. ...	1	2						
Highest ...			22·48	4·41	48·25	2·13	91·8	4,447
Lowest ...			18·35	2·07	45·00	1·95	89·4	3,582
Mean ...			20·42	3·24	46·63	2·04	90·6	4,015

LEMON ARBOR PLANTATION, NORTH PUMP POND FIELD—1923—1925.

Plant Canes.

TABLE VII.

Plots.	No of Canes per stool.	Canes tons per acre.	Per cent juice by mill.	Saccharose lb. per gallon.	Saccharose lb. per acre.
A.					
Plant Cane cuttings of Ba. 6032 Mean of 2 plots	10·30	33·98	53·88	1·97	7,470
First ratoon cuttings of Ba. 6032 ... Mean of 2 plots	10·20	35·82	57·88	1·96	8,328
LEMON ARBOR PLANTATION. WEST POUNDERS FIELD.—1923—1925. *First Ratoons.*					
B.					
Plant cane cuttings of Ba. 6032. Mean of 2 plots	15·05	29·39	57·63	1·81	6,407
First Ratoon cuttings of Ba. 6032 Mean of 2 plots	11·08	22·66	56·50	1·89	5,019
Second Ratoon cuttings of Ba. 6032 Mean of 2 plots	11·69	23·54	56·13	1·87	5,155
C.					
Thin short jointed cuttings of Ba. 6032	11·57	25·20	58·25	1·90	5,793
Thick long jointed cuttings of Ba 6032	10.40	19·64	55·50	1·88	4,260
D.					
Non-moth borer cuttings of Ba. 6032 Mean of 2 plots	12·17	24·63	53·63	1·84	5,061
Moth-borer cuttings of Ba. 6032. Mean of 2 plots	9·86	19·53	55·13	1·88	4,207
SUMMERVALE PLANTATION, NORTH SPENCER FIELD—1923—1925. *Plant Canes.*					
Non-moth borer cuttings of B.H. 10 (12) Mean of 2 plots	11·45	25·93	57·63	2·35	7,184
Moth-borer cuttings of B.H. (10 12) Mean of 2 plots	12·42	28·32	57·63	2·42	8,071

SUMMERVALE PLANTATION—LOWER PLEASANT VALE FIELD.—1923—1925.
Plant Canes.

TABLE VII.—*Concluded.*

Plot.	No. of Canes per stool.	Canes tons per acre.	Per cent. juice by mill.	Saccharose lb. per gallon.	Saccharose lb. per acre.
E.					
Cuttings of B.H. 10 (12) taken from stools containing 4 canes ...	14·33	31·29	61·00	2·25	8,800
Cuttings of B.H. 10 (12) taken from stools containing 5 canes ...	12·47	33·70	61·25	2·24	9,489
Cuttings of B.H. 10 (12) taken from stools containing 6 canes ...	12·80	35·26	63·00	2·28	10,376
Cuttings of B.H. 10 (12) taken from stools containing 17 canes ...	13·49	33·18	64·25	2·24	9,800
Cuttings of B.H. 10 (12) taken from stools containing 18 canes ...	14·23	30·98	60·75	2·31	8,907
Cuttings of B.H. 10 (12) taken from stools containing 19 canes ...	13·60	31·87	56·50	2·24	9,050
Cuttings of B.H. 10 (12) taken from stools containing 20 canes ...	13·60	34·69	59·00	2·25	9,443